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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,238	04/12/2005	Yasuyuki Tomiyama	259619US0PCT	9016
22850	7590	07/23/2009		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER STULII, VERA	
			ART UNIT 1794	PAPER NUMBER
			NOTIFICATION DATE 07/23/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/510,238	Applicant(s) TOMIYAMA ET AL.	
	Examiner VERA STULII	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/12/2009 has been entered.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 5-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morey (US 5,316,779) in view of Cho et al (US 4,105,802) and applicant's admission of the prior art.

In regard to claim 5, Morey discloses the problem of foam formation in carbonated beverages containing aspartame (Col. 1 lines 22-26). Morey discloses solving this problem by applying antifoaming agent to the inner surface of the cup, where the antifoaming agent is dispersed in the beverage after beverage is poured in the cup (Col. 2 lines 17-20; Col. 3 Example 2 line 43). Therefore, Morey discloses the same problem (excessive foam formation when aspartame is used in the soft carbonated beverages) and solution (use of food-grade anti-foaming agent) as applicants do.

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Morey further discloses that any suitable antifoaming agent may be employed (Col. 2 lines 53-54). In regard to the amount limitation in claim 5 ("amount sufficient to eliminate formation of foam caused by the Aspartame"), Morey discloses that the amount of anti-foaming agent is limited by a maximum amount established by law, and the minimum amount required for foam control (Col. 3 lines 22-36). In regard to the foam elimination recitation, Morey discloses the foam quickly "dissipates" when the anti-foaming agent comes in contact with the carbonated beverage (Col. 2 lines 17-20; Col. 3 line 43).

Morey is silent as to the specific HLB or molecular weight of the anti-foaming agent and addition of the anti-foaming agent to the liquid beverage material for the carbonated beverage. .

In regard to claim 5, Cho et al discloses a raw material liquid for a carbonated coffee beverage comprising an amount of emulsifier sufficient to eliminate formation of foam (Abstract). In particular, in regard to the raw liquid material, Cho et al discloses preparing syrup solution, adding sweetener, adding emulsifier (which serves as an anti-foaming agent), and further carbonation and packaging (Col. 2 lines 56-65). Therefore, Cho et al discloses addition of the anti-foaming agent to the liquid beverage material for the carbonated beverage. Further in regard to claim 5, Cho et al disclose that naturally produced coffee extract causes excessive foam formation that leads to a "large quantity overflow" during pouring into the container or opening the container. Cho et al also disclose adding organic additives (emulsifiers) to the extracted coffee liquid in order to reduce foaming while maintaining its body, taste and flavor. Further in regard to claim

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5, Cho et al disclose "glycerin fatty acids esters" as additives (Col 2 line 61; Col. 3 lines 15, 23, 32). Cho further discloses that "the carbonated drink is then charged into a container such as a can or bottle by the conventional method so as to be suitable for the individual consumption. Cho disclose adding glycerin fatty acids ester to the coffee extract (Col. 2 line 15). Applicant's admission of the prior art further evidences the fact that the recited emulsifiers are conventional. In summary, both Morey and Cho disclose:

- the carbonated beverage containing sweeteners;
- problem of excess foam formation;
- use of additives that reduce foam formation (anti-foaming agents).

Morey specifically discloses the problem of foam formation in beverages with aspartame. Cho et al disclose glycerin fatty acids esters as antifoaming agents. Since both references disclose elimination of foam formation in carbonated beverages by application of the anti-foaming agents, one of ordinary skill in the art would have been motivated to modify Morey in view of Cho et al and to employ conventional glycerin fatty acids ester as anti-foaming agents in the beverages containing aspartame for the benefits as taught by both Morey and Cho et al. One of ordinary skill in the art would also have been motivated to modify Morey in view of Cho et al and to form a raw material liquid for the carbonated beverage containing emulsifier that serves as an antifoaming agent as disclosed by Cho et al. One of ordinary skill in the art would have been motivated to do so, since addition of the emulsifier that serves as an antifoaming agent to the beverage liquid is an alternative method of bringing both beverage liquid and emulsifier in contact. One of ordinary skill in the art would have been motivated to

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do so, since both references disclose contacting beverage liquid with emulsifier that serves as an antifoaming agent.

Regarding the recited HLB and molecular weight values in claims 5 and 6, it is noted that claims 7 and 8 recite glycerin fatty acids esters and depend from claims 5 and 6, and since the combination of Morey in view of Cho et al meets the limitations of claims 7 and 8, combination of Morey in view of Cho et al also meets limitations of claims 5 and 6, because the combination teaches recited emulsifier which would therefore inherently possess the particular recited properties. Regarding the recited molecular weight values in claims 11 and 12, recited emulsifier which would therefore inherently possess the particular recited properties.

In regard to claims 9 and 10, it is noted that the particular conventional glycerin fatty acid ester selected to suppress the foam formation in carbonated soft beverages is seen to have been an obvious result effective variable, routinely determinable. Further in regard to claims 9 and 10, as noted above, applicant's admission of the prior art discloses that the recited compounds were well known emulsifiers. Therefore to substitute one conventional emulsifier/antifoaming agent with another conventional emulsifier/antifoaming agent for its art recognized and applicant's intended function would have been obvious.

In regard to claims 13-16, it is noted that the particular amount of anti-foaming agent employed is seen to have been an obvious result effective variable, routinely determinable depending on the desired anti-foaming effect.

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In regard to claims 17-22, Morey in view of Cho et al are silent regarding cola flavor. However, cola flavored carbonated soft beverages containing non-carbohydrate sweeteners including aspartame were well known in the art. Therefore, one of ordinary skill in the art would have been motivated to modify Morey in view of Cho et al and to use glycerin fatty acids ester as anti-foaming agents in the carbonated soft beverages having cola flavor as well. One of ordinary skill in the art would have been motivated to do so, since cola flavored carbonated soft beverages were well known in the art.

In regard to claims 23, 24, 29 and 30 combination of Morey in view of Cho et al discloses carbonated soft beverages containing the raw liquid material (Col. 1 lines 11-26).

In regard to claims 25-28, Morey discloses incorporating aspartame into the carbonated beverage. Also, although Morey applies the anti-foaming agent to the cup, it does become part of the beverage when the beverage is added to the cup. Cho et al disclose a process for producing soft carbonated beverages (carbonated coffee drinks) by adding organic additives to the extracted coffee liquid in order to reduce foaming while maintaining its body, taste and flavor. Cho et al also teaches further carbonation of the beverage. One of ordinary skill in the art would have been motivated to modify Morey in view of Cho et al and to incorporate conventional glycerin fatty acids ester as anti-foaming agents in the beverages that also incorporate aspartame for the benefits as taught by both Morey and Cho et al. One of ordinary skill in the art would also have been motivated to do so for the reasons as stated above. One of ordinary skill in the art would also have been motivated to incorporated both aspartame and ant-foaming agent

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into the beverage, since this is seen to be an obvious method of producing a beverage containing both aspartame and anti-foaming agent.

Claims 5-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cho et al (US 4,105,802) in view of Morey (US 5,316,779) and applicant's admission of the prior art.

In regard to claim 5, Cho et al discloses a raw material liquid for a carbonated coffee beverage comprising an amount of emulsifier sufficient to eliminate formation of foam (Abstract). In particular, in regard to the raw liquid material, Cho et al discloses preparing syrup solution, adding sweetener, adding emulsifier (which serves as an anti-foaming agent), and further carbonation and packaging (Col. 2 lines 56-65). Therefore, Cho et al discloses addition of the anti-foaming agent to the liquid beverage material for the carbonated beverage. Further in regard to claim 5, Cho et al disclose that naturally produced coffee extract causes excessive foam formation that leads to a "large quantity overflow" during pouring into the container or opening the container. Cho et al also disclose adding organic additives (emulsifiers) to the extracted coffee liquid in order to reduce foaming while maintaining its body, taste and flavor. Further in regard to claim 5, Cho et al disclose "glycerin fatty acids esters" as additives (Col 2 line 61; Col. 3 lines 15, 23, 32). Cho further discloses that "the carbonated drink is then charged into a container such as a can or bottle by the conventional method so as to be suitable for the individual consumption. Cho disclose adding glycerin fatty acids ester to the coffee

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extract (Col. 2 line 15). Applicant's admission of the prior art further evidences the fact that the recited emulsifiers are conventional.

Cho et al does not disclose that the beverage contains aspartame.

In regard to claim 5, Morey discloses carbonated beverage containing aspartame. Morey discloses the problem of foam formation in carbonated beverages containing aspartame (Col. 1 lines 22-26). Morey discloses solving this problem by applying antifoaming agent to the inner surface of the cup, where the antifoaming agent is dispersed in the beverage after beverage is poured in the cup (Col. 2 lines 17-20; Col. 3 Example 2 line 43). Therefore, Morey discloses the same problem (excessive foam formation when aspartame is used in the soft carbonated beverages) and solution (use of food-grade anti-foaming agent) as applicants do. Morey further discloses that any suitable antifoaming agent may be employed (Col. 2 lines 53-54). In regard to the amount limitation in claim 5 ("amount sufficient to eliminate formation of foam caused by the Aspartame"), Morey discloses that the amount of anti-foaming agent is limited by a maximum amount established by law, and the minimum amount required for foam control (Col. 3 lines 22-36). In regard to the foam elimination recitation, Morey discloses the foam quickly "dissipates" when the anti-foaming agent comes in contact with the carbonated beverage (Col. 2 lines 17-20; Col. 3 line 43).

In summary, both Morey and Cho disclose:

- the carbonated beverage containing sweeteners;
- problem of excess foam formation;
- use of additives that reduce foam formation (anti-foaming agents).

Both references disclose sweetened carbonated beverages and application of anti-foaming agents in order to reduce/eliminate formation of foam. One of ordinary skill in the art would have been motivated to modify Cho et al and to substitute sugar with aspartame in order to reduce caloric value of the beverage. One of ordinary skill in the art would have been motivated to do so, since substitution of conventional carbohydrate sweeteners with sugar substitutes (artificial sweeteners) such as aspartame in a variety of food products including carbonated beverages, was a well established fact in the art.

Regarding the recited HLB and molecular weight values in claims 5 and 6, it is noted that claims 7 and 8 recite glycerin fatty acids esters and depend from claims 5 and 6, and since Cho et al meets the limitations of claims 7 and 8, Cho et al also meets limitations of claims 5 and 6, because the Cho et al teaches recited emulsifier which would therefore inherently possess the particular recited properties. Regarding the recited molecular weight values in claims 11 and 12, recited emulsifier which would therefore inherently possess the particular recited properties.

In regard to claims 9 and 10, it is noted that the particular conventional glycerin fatty acid ester selected to suppress the foam formation in carbonated soft beverages is seen to have been an obvious result effective variable, routinely determinable. Further in regard to claims 9 and 10, as noted above, applicant's admission of the prior art discloses that the recited compounds were well known emulsifiers. Therefore to substitute one conventional emulsifier/antifoaming agent with another conventional emulsifier/antifoaming agent for its art recognized and applicant's intended function would have been obvious.

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In regard to claims 13-16, it is noted that the particular amount of anti-foaming agent employed is seen to have been an obvious result effective variable, routinely determinable depending on the desired anti-foaming effect.

In regard to claims 17-22, Cho et al and Morey are silent regarding cola flavor. However, cola flavored carbonated soft beverages containing non-carbohydrate sweeteners including aspartame were well known in the art. Therefore, one of ordinary skill in the art would have been motivated to modify Cho et al in view of Morey and to use glycerin fatty acids ester as anti-foaming agents in the carbonated soft beverages having cola flavor as well. One of ordinary skill in the art would have been motivated to do so, since cola flavored carbonated soft beverages were well known in the art.

In regard to claims 23, 24, 29 and 30 combination Cho et al discloses carbonated soft beverages containing the raw liquid material (Col. 1 lines 11-26).

In regard to claims 25-28, Cho et al discloses a method for preparing the raw material liquid for a carbonated coffee beverage comprising an amount of emulsifier sufficient to eliminate formation of foam (Abstract). In particular, in regard to the method of preparing the raw liquid material, Cho et al discloses preparing syrup solution, adding sweetener, adding emulsifier (which serves as an anti-foaming agent), and further carbonation and packaging (Col. 2 lines 56-65). Since both references disclose sweetened carbonated beverages and application of anti-foaming agents in order to reduce/eliminate formation of foam. One of ordinary skill in the art would have been motivated to modify Cho et al and to substitute sugar with aspartame in order to reduce caloric value of the beverage. One of ordinary skill in the art would have been motivated

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to do so, since substitution of conventional carbohydrate sweeteners with sugar substitutes (artificial sweeteners) such as aspartame in a variety of food products including carbonated beverages, was a well established fact in the art.

Response to Arguments

Applicant's arguments filed May 29, 2009 have been fully considered but they are not persuasive.

On pages 7-8 of the Reply to the Office action mailed January 12, 2009 Applicants state that “[t]he Examiner has provided absolutely no evidence that the anti-foaming agent leeches out of the cup and into the beverage to any appreciable extent. This is sheer speculation. There is certainly no disclosure or suggestion that the amount of antifoaming agent is sufficient to eliminate the formation of foam caused by the Aspartame, as explicitly recited by Claim 5”. Examiner respectfully disagrees. Morey discloses that antifoaming agent disperses in the beverage (Col. 3 line 43). In regard to the amount limitation in claim 5 (“amount sufficient to eliminate formation of foam caused by the Aspartame”), Morey discloses that the amount of anti-foaming agent is limited by a maximum amount established by law, and the minimum amount required for foam control (Col. 3 lines 22-36). In regard to the foam elimination recitation, Morey discloses the foam quickly “dissipates” when the anti-foaming agent comes in contact with the carbonated beverage (Col. 2 lines 17-20; Col. 3 line 43).

On page 8 of the reply, applicants state that “Morey does not disclose or suggest that applying the anti-foaming agent (making a thin film of the anti-foaming agent) to a

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bottle in a bottling step in a bottling factory can eliminate the formation of foam". On page 8 of the Reply, Applicants states that "Cho et al. are, however, not even suggestive of the Aspartame-attributable bubbling or foam or any way of solving such a problem. In fact, Cho et al. use sugar as a sweetener, which does not cause bubbling". On page 9 of the Reply, Applicants states that "[t]here is certainly no recognition in Cho et al. that Aspartame produces foam". In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). It is noted that Cho et al is relied upon as a teaching of incorporating of the antifoaming agent into the raw liquid material for the carbonated beverage. Further in this regard, Applicants are referred to the rejection under 35 U.S.C. 103(a) as being unpatentable over Cho et al (US 4,105,802) in view of Morey (US 5,316,779) and applicant's admission of the prior art.

In response to Applicants' arguments regarding HLB values and molecular weight of the emulsifier (page 9 of the Reply), it is noted that claim recites glycerin fatty acids esters and depend from claims 5, and since Cho et al meets the limitations of claim 7 by teaching of glycerin fatty acids esters, Cho et al also meets limitations of HLB values and molecular weight of the emulsifier in claim 5, because Cho et al teaches recited emulsifier which would therefore inherently possess the particular recited properties.

On page 9 of the Reply, Applicants state that “Morey and Cho al. are solving two very different types of foaming problems”. Examiner respectfully disagrees. As stated above both Morey and Cho et al disclose the problem of excess foam formation and use of additives that reduce foam formation (anti-foaming agents) in the carbonated beverage containing sweeteners. Thus, both Morey and Cho et al are solving the same problem of excess foam formation in the carbonated beverage containing sweeteners.

On pages 9-10 of the Reply, Applicants state that one of ordinary skill in the art would not have been motivated to substitute one anti-foaming agent with another, because of the different foam formation source. Examiner respectfully disagrees. In response to applicant's argument that one of ordinary skill in the art would not be motivated to use glycerine fatty acids esters as antifoaming agents to eliminate foam caused by presence of aspartame, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VERA STULII whose telephone number is (571)272-3221. The examiner can normally be reached on 7:00 am-3:30 pm, Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steve Weinstein/
Primary Examiner, Art Unit 1794

VS